

thirds of this cable was laid by the *Great Eastern* it broke, and could not be recovered. Another company was formed to make a new attempt in 1866, Mr. Pender being again responsible for a considerable share of the expenses. This time not only was the cable successfully laid, but the end of the last year's broken cable was recovered, and it was completed. From this time Mr. Pender became a recognised leader in submarine telegraphy, and at his death presided over companies with a total capital of fifteen millions, and a cable mileage of 73,640 nautical miles. He was knighted in 1888, and promoted G.C.M.G. in 1892, and received many foreign orders and distinctions. His parliamentary career was a long and honourable one. He was M.P. for Totnes, 1865-66; Wick Burghs, 1872-85, 1892-95. He also contested Linlithgowshire 1868, Wick Burghs 1885, Stirling Burghs 1886, and Govan 1889. He took a keen interest in pictures, of which he had a fine collection, making it, moreover, a rule never to buy a modern picture without making the personal acquaintance of the artist.

He married, in 1840, Marion, daughter of Mr. James Cearns; and some years after her death he married, in 1851, Emma, daughter of Mr. Henry Denison, of Daybrook, Notts; and leaves two sons and two daughters. He was elected a Fellow of this Society on 1883 June 8. It may be mentioned that, on occasions when application has been made to the cable companies for facilities on behalf of purely scientific enterprise, Sir John Pender was always ready to use his influence in their favour, and his Fellowship of this Society was constantly referred to as one of the reasons for his doing so.

WADHAM LOCKE SUTTON was born at Highgate in 1815, and was the youngest son of the late Robert Sutton of Rossway, Hertford. His life was spent almost entirely in the neighbouring town of Northchurch, and at Dudswell, where he lived for some years, he erected an observatory containing a telescope of considerable size. He was a Master of the Mercers' Company in 1858-59. One of his chief interests was work connected with the Church, and he was rector's churchwarden from 1860 till his death, which took place at Northchurch on 1896 September 25, in his eighty-second year.

Mr. Sutton married, in 1858, Louisa Ann, daughter of the late Rev. William Ludlow, Vicar of Kirton, Lincolnshire. He was elected a Fellow of this Society on 1854 November 10.

SIDNEY WATERS was born at Camden Town, on 1853 October 13. He was educated at Amersham Hall, near Reading, and showed considerable mathematical ability, as well as an ingenuity in devising and making apparatus. His life occupation was that of a merchant; but he was keenly interested in astronomy from an early age, and published his first paper in 1873 April, drawing attention to the fact that where "irresolvable" nebulae cluster

there also do the "resolvables." This was stated, in the first instance, in a letter to Mr. R. A. Proctor, in conference with whom much of Mr. Waters's early astronomical work was undertaken. At the next meeting of the Society Mr. Waters (not yet quite of age) was elected a Fellow, and in the "Supplementary number" for 1873, he published the isographic charts of nebulae and clusters on which he based the above conclusion. Recently (1894 June) he revised these charts by the help of Dr. Dreyer's New General Catalogue. He also, in 1878, gave an isographic chart of the stars in the southern hemisphere. These papers represent practically the whole of his published work, but his devotion to astronomy was shown in many ways. He went to Norway in August of the past year to observe the Total Solar Eclipse, having equipped himself with a special telescope camera. He made a very fine private collection of astrolabes; and he took a prominent part in the private business of this Society. He married in 1877 a daughter of the Rev. Edward White, and leaves a son and two daughters. Mr. Waters was grandson of the Rev. Thomas Waters and of Mr. E. Leader Williams, both of Worcester, and nephew of Mr. B. W. Leader, A.R.A., and of Sir E. Leader Williams, engineer of the Ship Canal. He died on 1896 December 14, at his residence, 44, Ladbroke Grove, W.

BENJAMIN APTHORP GOULD was born in Boston, 1824 September 27. He entered the Boston Latin School in 1836, and graduated from Harvard College, with high distinction in classical, as well as in mathematical and physical studies, in 1844. After teaching for a year in the Latin School, he decided to devote himself to a purely scientific career. As a preparation for this he went to Europe in 1845 July, to study astronomy, working at the Greenwich Observatory three months, at the Paris Observatory four months, at the Berlin Observatory a year, at Göttingen Observatory one year, at Altona Observatory four months, and at Gotha Observatory one month. He returned home in 1848. In 1852 he was appointed to take charge of the longitude determinations of the Coast Survey. He organised, developed and extended this service, retiring in 1867. Meanwhile, in 1855, he became Director of the Dudley Observatory, in Albany, equipped and organised the institution, and carried it on without remuneration and at his private expense. He left it in 1859, after a severe struggle to preserve the institution for purposes of scientific investigation.

In 1859 he published his discussion of the places and proper motions of circumpolar stars for use as standards in the Coast Survey. These, as revised by him in 1861, together with his similar list of clock-stars, were adopted as the standards for the American ephemeris, and, as to the circumpolars, remain in such use to this day. In 1866 he published his reduction of d'Agelet's observations. About the same time he performed a similar service for the greater part of the observations made at the